



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706-1255 • (208) 373-0502

November 22, 2000

Dirk Kempthorne, Governor  
C. Stephen Allred, Director

Ms. Kathleen Hain, Manager  
Environmental Restoration Program  
U.S. Department of Energy  
Idaho Operations Office  
850 Energy Drive  
Idaho Falls, Idaho 83401-1563

**RE: *Draft Final Remedial Investigation/Feasibility Study Work Plan for the Operable Unit 3-14 Tank Farm Soil and Groundwater***

Dear Ms. Hain:

The Idaho Department of Environmental Quality (IDEQ) has completed its review of the above-referenced document, and provides the enclosed comments. . IDEQ did not review the Health and Safety Plan.

IDEQ received the draft work plan on November 7, 2000. I look forward to working with your staff to address these comments during the 15 day finalization period. If you have any questions regarding these comments, please contact me at (208) 373-0306.

Sincerely,

A handwritten signature in cursive script that reads "Margie English".

Margie English  
WAG 3 Manager  
IDEQ Technical Services Group

ME/jc

cc: Talley Jenkins, USDOE-ID  
Kathy Ivy, USEPA Region X  
Daryl Koch-DEQ WMRD  
Gerry Winter, DEQ Technical Services Group

Enclosure

**Concerns with Responses to Previous Comments  
on the Draft RI/FS Work Plan**

- 1) The responses to the following comments indicate that revised text was added to the document. Please identify where the revised text was placed so that we can complete our review: Comment #'s 27, 47, 48, 68, and 71.

- 2) **Response to Comment 33(a)**

The response indicates that this comment was *accepted*, but there does not appear to be any change to the referenced text. Please explain.

**Specific Comments**

- 3) **Section 3.1.2, Page 3-30, Figure 3-8**

It appears that the colorized labels for CPP-61 and CPP-81 have been switched on the figure.

- 4) **Section 4.1.2, Page 4-2, Fourth Bullet**

As stated previously in Comment # 10 in our review of the draft version of this document, all piping is considered ancillary equipment to the tank farm system and will be addressed during closure pursuant to HWMA. Since IDEQ has not yet received or reviewed the first partial closure plan for the tank farm, it is premature to speculate on the end state of the HWMA closure and/or any required post closure care. IDEQ does not, at this time, concur with USDOE's intended assumption proposing to divide responsibilities between HWMA and CERCLA for buried pipes.

- 5) **Section 4.1.3, Page 4-3, Sixth Sentence**

This sentence requires clarification. It is incorrect to state that "*pump stations, injection wells, and treatment units . . . can be managed within this AOC without triggering land disposal regulations.*" The CERCLA Area of Contamination

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(AOC) concept is intended to allow movement and consolidation of remediation wastes within the areal extent of contamination to facilitate clean up. The concept applies to remediation wastes, not to treatment and/or disposal units. In fact, land disposal restrictions (LDRs) are triggered by placement once these wastes enter a treatment unit, even if the treatment unit is located within the AOC. The AOC for a site is usually defined in a Record of Decision or other post-ROD document, after the extent of contamination has been determined and a remedial alternative selected. The Agencies have not yet determined an Area of Contamination for OU 3-14. Therefore, we disagree with the statement that *"for the purposes of initial alternative comparison in the OU 3-14 RI/FS, the OU 3-13 ROD isopleth approach will be used."* Note that the OU 3-13 AOC boundary was largely defined by windblown contamination from site CPP-95. The extent of the CPP-95 wind-blown contamination does not apply to the OU 3-14 sites. However, the OU 3-13 ROD and subsequent post-ROD design documents allow for investigation-derived wastes from OU 3-14 to be managed in accordance with the OU 3-13 remedy utilizing the Staging, Storage, and Stabilization Treatment Facility and the INEEL CERCLA Disposal Facility. The OU 3-14 Waste Management Plan should state that OU 3-14 IDW will be sent to the SSA, for eventual treatment (if necessary) and disposal within the ICDF (if it meets the ICDF WAC).

6) Section 4.4.1.1, Table 4-1, Page 4-22

The OU 3-14 remedial investigation (and DQO table) should acknowledge VOCs and SVOCs as COPCs at Site CPP-15. The Phase II Characterization Work Plan can discuss the limitations of sampling for these constituents. There was insufficient information generated by the OU 3-13 Remedial Investigation to eliminate these contaminants as COPCs for this site.

7) Section 4.4.1.7, Page 4-21 and Table 4-1, Last Column, Page 4-24

The referenced text is inconsistent with comment resolutions discussed among the Agencies for previous comment # 32 on the draft version, and the revised text found on pages 4-18 and 4-19 of this document. Specifically, it was our understanding that the Remediation Stages I through IV referred to OU 3-14 post-ROD clean-up activities that are presumed to occur. However, the

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referenced text states that *“it is envisioned that four remediation stages will occur while the OU 3-14 Tank Farm Field Investigation Phases I and II are occurring.”* The schedule presented in Section 6 indicates that the OU 3-14 ROD is expected to be finalized in the Fall of 2007, whereas Phase I activities will occur in 2001 and Phase II work is planned to occur in 2004. A RI/FS Work Plan can not be used to identify a remediation activity for a site. Remedial alternatives must be presented for public comment in a Proposed Plan, followed by formal remedy selection in a Record of Decision. Therefore, what is identified on Page 4-21 as *Remediation Stages I and II* should be re-named *Characterization Stages I and II* because they do not represent any remediation work conducted under operable unit 3-14. The text can state, if desired, that the OU 3-13 Group 1 interim action will be minimizing infiltration at the tank farm, and the OU 3-13 Group 4 remedy will be collecting moisture monitoring data near the Tank Farm during this stage. Any efforts to *“address immediate threats”* prior to completion of the OU 3-14 remedy selection process (which includes preparation of the Proposed Plan and ROD) would be conducted as a Removal Action or a USDOE maintenance action.

8) Section 4.4.2.1, Page 4-25, Background Summary, Third Paragraph; and Table 4-2, Page 4-34

Based on information provided to IDEQ by USDOE in March, 2000 (Attachment 1), it is also known that waste water discharged to the CPP-23 (a.k.a CPP-03) injection well was contaminated with listed hazardous waste, resulting in contaminating the aquifer with 4 waste codes and 9 constituents. Therefore, these hazardous compounds should be identified as COPCs for the OU 3-14 remedial investigation. Identifying a complete list of OU 3-14 COPCs in the DQO process will support the agreed-upon sampling strategy, which includes analyses for organic contaminants.

9) Section 4.4.2, Table 4-2, Pages 4-34 through 4-35

- a) **Column 1, Problem Statement, Last Sentence:** This sentence has been edited to the point that it is no longer a complete sentence, nor does it support the first sentence of the problem statement. IDEQ suggests that the words *“Second, there is uncertainty resulting from contaminant”*, which were included in the draft version, be restored here.

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- b) **Column 2, PSQ-5:** The last sentence is incomplete.
- c) **Column 3, PSQ-2c, Alternative Action B, Parenthetical:** IDEQ suggests that “*stop contaminant mobility*” be replaced by “*minimize contaminant mobility*.”
- d) **Column 5, Inputs to PSQ-2a:** Please replace “*downgrade*” with “*downhole*.”
- e) **Column 5, Inputs to PSQ-5:** USDOE’s decision to globally replace the word “*sludge*” with “*sediment*” has resulted in redundancy in this list.
- f) **Column 6, Operational Boundaries:** The reference to staged remediation of tank farm soil does not appear relevant to the CPP-23 RI activities.
- g) **Column 6, Treatment Evaluation Boundaries:** We are uncertain what is meant by “*It may also be impacted by the maturity of the treatment*.” Please clarify.
- h) **Column 9, Optimize the Design, Page 4-35:** The DQO table should specify the types of analyses that will be conducted on the OU 3-14 samples, rather than just referring to FSP for this information.

**10) Section 6.1, Pages 6-1 through 6-4, Activities and Deliverables**

- a) The Phase II Characterization work plan represents a second phase of remedial investigation characterization effort, and as such, should be a primary document with an enforceable submittal deadline and a 45 day review period.
- b) In accordance with the FFA/CO and Action Plan, the June 30, 2006 submittal should be a draft Remedial Investigation/Feasibility Study Report. The results of the remedial investigation and risk assessment should be evaluated in a primary document.

11) **Attachment A, Tank Farm Soil Sampling FSP, Section 4**

The text should be expanded to discuss the rationale for the proposed new probehole sampling locations, particularly those located in known contamination sites.

- a) For example, comparing Figures 4-1 and 4-2, some of the proposed probehole locations for Site CPP-31 appear to be located in almost the same locations as the boreholes from the previous survey; the text should present the reasons that these locations need to be re-characterized.
- b) Likewise, text provides no explanation as to why some of the proposed probe locations within a contaminated area are deemed critical and others are not (Figure 4-4).
- c) In addition, it is unclear why the four proposed probeholes at site CPP-58 and the two proposed locations at Site 15 are not considered critical, since Figure 4-1 suggests that these sites were not included in the prior gamma survey.
- d) Some piping southeast of the Tank Farm fence is identified on Figure 4-2 as having "contamination risk," and four probeholes are proposed adjacent to the pipes. The text should describe why that particular stretch of pipe is assumed contaminated, and why it is apparently the only section of piping within the area of the figure that is thought to have contamination risk.

12) **Attachment B, Injection well FSP, Section 4.1.1, Page 4-1, Paragraph 1**

It seems feasible, given the information presented, that the initial borehole (36" diameter) could miss or partially miss the original injection well such that the drilling/coring would not be centered as needed to proceed. Please clarify that as-builts for the injection well vault are adequate to ensure that the 36" diameter hole will hit the original injection well and that a second attempt or different approach is not needed to enter the original injection well.

13) Attachment B, Injection well FSP, Section 4.2, Page 4-7, Paragraph 8

- a) The second sentence states "Install 61.0 m (200 ft) of 15.2-cm (6-in.) schedule 40, flush-threaded, wire-wrapped stainless steel screen casing from 182.9 to 140.2 m (600 to 460 ft)." The numbers do not match (200 ft versus 140 ft).
- b) Also, a 200 ft section of screen could be excessive for obtaining samples from a discrete vertical section (e.g., it will allow for intermingling of ground waters from below, within, and above the HI interbed). Conceptually, because the injection well had a history of failure and accumulation of sludge in the well (and probably formation), it can be assumed that the injection horizon became shallower with time. Potential contaminants would have been injected at a greater rate at the shallower injection horizon because of this sludge build-up. Consideration should be given to use of alternating sections of casing between lengths of screen. For instance, 20 ft sections of screen could be separated by 20 ft sections of casing. The screened sections would be gravel packed and the casing sections would be sealed using grout and/or bentonite. This approach would allow the use of a packer assembly so that discrete samples could be collected from the screened sections. This or other multiple completion construction strategies should be considered and discussed with the agencies to enable the greatest level of characterization possible from the limited number of wells that will be drilled.

14) Attachment B, Injection Well FSP, Section 5.3.5.2, Page 5-7

- a) We recommend that the text better explain that this section applies to potential opportunities to sample perched water in the CPP-23 injection well as drilling proceeds. Re-naming the section title to *Opportunistic Perched Water Sample Prioritization* would be helpful. As is, the title causes confusion because for the majority of groundwater sampling associated with this FSP (i.e., MON-A-173 and MON-A-174) there should be a sufficient volume of sample to meet all of the analytical needs; these aquifer wells are planned to have 200 feet of well screen.

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- b) Please discuss why both filtered and non-filtered metals samples are planned, and why mercury is highlighted in line item 3.

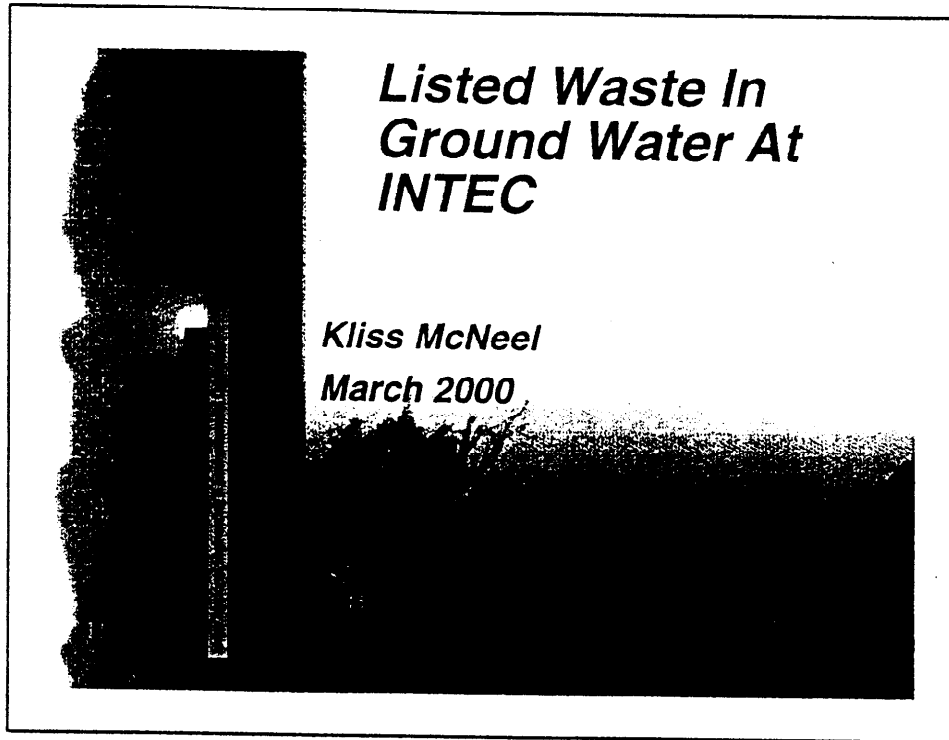
**15) Attachment B, Injection Well FSP, Tables 5-1, through 5-3, Pages 5-5 through 5-10**

The main text or an appendix should identify the analyte detection levels that will be used for this project. Review of the generic QAPjP reveals that there are various detection levels for CLP analyses (QAPjP Sections 1.4.6.1 and 1.4.6.2).

**16) Attachment B, Injection Well FSP, Appendix A, SAP table**

- a) The groundwater SAP tables appear to suggest that duplicate groundwater samples will be collected for all except organic analyses. Please explain the rationale of this plan.
- b) Also, please explain why the organic analyses have multiple Analysis Type Codes (e.g., AT19 and AT20).
- c) Sections 4.4.2.1 and 4.4.2.2 indicate that MON-A-173 and MON-A-174 will be sampled using dedicated submersible pumps, rather than bailers.





*The Idaho National Engineering and Environmental Laboratory*

## ***Background***

- *Pre 1984 PEWE overhead wastes were discharged to the injection well*
- *Waste water contained radionuclides and RCRA listed waste*
- *Injection well disposal was generally discontinued in 1984*
- *Post '84 discharges went to percolation ponds*
  - *discharges contained same contaminants in same concentrations*
  - *ponds "clean closed" 11/95*

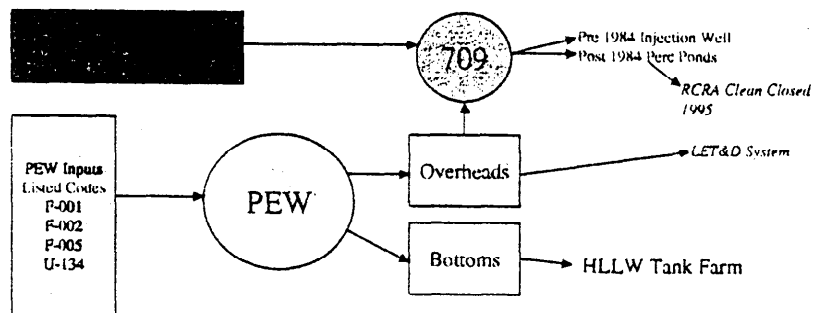


## RCRA Listed Waste Was Discharged via the INTEC Injection Well

- PEWE waste is RCRA listed waste
  - various tank wastes and lab wastes
  - 4 codes and 9 constituents
- PEWE overheads are listed waste
  - derived-from rule
- Overheads combined with service waste
  - mixture rule
- Service waste discharged to injection well
  - effectively ended in 1984
- Aquifer contaminated with 4 waste codes and 9 constituents
  - contained-in policy

INTEC

## Simplified INTEC Process



INTEC